Web Content Management Resources Guide

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Alberta
GOVERNMENT OF ALBERTA

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1. Introduction

The Government of Alberta is currently implementing a government-wide Information Management Framework. The goal of the framework is to develop and apply a consistent and disciplined approach to managing the information assets of the government, including web content.

The Internet is an important communication channel to both the government and its citizenry. It provides access to government information, facilitates the delivery of government services, and carries out financial and non-financial transactions. The Government of Alberta expects that the Internet as a communication channel will continue developing and expanding given its convenience and the evolution of new technologies. Thus, there is a critical need to manage web content systematically and consistently.

This resources guide was developed to assist the Government of Alberta in developing the Managing Web Content: Applying the Information Management Framework guide, and to offer government organizations a starting point for researching specific web management questions. The objective of this resources guide is to provide references to authoritative, current and substantive resources. Although this guide cites some books, the demand for currency and the nature of this topic resulted in this guide pointing mostly to web resources.

This guide focuses on records management and preservation and NOT on areas currently addressed by other GoA cross-government groups, such as:

- Cross-Government Internet Committee, web site standards,
- Content Management Systems Working Committee (CMSWC), software selection,
- Security Advisory Committee (SAC), IT security standards and practices,
- Standards for Web Application Protocols (SWAP), web application development,
- Metadata Expert Working Sub-group (MEWS), metadata standards.

Please note that not all resources cited here agreed on what web content management (WCM) is and is not. The resources varied in their focus, typologies, and descriptions of WCM resulting in a range of concepts, including:

- Internet, intranet, extranet, and virtual private networks;
- public, private, and deep web sites;
- static, dynamic, or personalized web content;
- front-end portals/interfaces, and/or back-end databases; and
- issues of accessibility, intellectual property, legal, management, privacy, preservation, and technological issues.

This guide contains a section entitled "Core Resources", which are those that discuss WCM from a records and information management perspective, and are generally written by other governments' archives and records management divisions. Other resources attempt to round out the various facets of web content management.

Please contact the Information Management Branch to offer feedback or suggestions on this resources guide.

Key:

Resources flagged with this graphic are core resources and recommended for Government of Alberta staff.

2.
Core Resources

The following are recommended starting points for Government of Alberta staff.

Australia, National Archives of Australia (NAA). Archiving Web Resources – Policy and Guidelines. 2001. Available at: http://www.naa.gov.au/recordkeeping/er/web_records/intro.html.

- The policy covers public web sites, virtual private networks, extranets, intranets, and individual web-based resources, and it outlines responsibilities for national organizations. Does not include Public Key technology.
- The guideline's major section headings include: diversity of web-based resources, good web-based recordkeeping, assessing risk, strategic and technological options, storage and preservation issues and strategies, and determining the best option. Contains key definitions. Assigns responsibilities to IT, webmasters, RO, and content authors for making and keeping web records. Issues on recordkeeping web resources include: object-driven vs. event-driven recordkeeping; technological dependency and obsolescence; and selection of storage media (online vs. offline).

Australia, Queensland, Government Services. Managing Records of Webpages and Websites: Policy Statement, Principles, and Guidelines. 2002. Available at: http://www.archives.qld.gov.au/index_govserv.html.

- "This policy extends to public records held, by agreement, in temporary custody by contractors such as web designers or web hosts and other third parties including non-public or Commonwealth agencies." Provides principles, a glossary, implementation, guidelines, and management of web resources.

Canada, IM Forum Internet and Intranet Working Group. An Approach to Managing Internet and Intranet Information for Long-Term Access and Accountability. 1999. Available at: http://www.imforumgi.gc.ca/iapproach2_e.html.

- A lengthier, companion Implementation Guide is also available.
- The IM Forum's approach and guidelines provide government-wide guidance on managing records and publications on federal departments' intranets, extranets, and the Internet. The guide discusses risk management, satisfying legal deposit, the retention and disposition of web documents, metadata, and quality assurance.

Canada, Treasury Board of Canada Secretariat. Integrated Risk Management Framework. April 2001. Available at: http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/riskmanagement/rmf-cgr_e.asp.

- This document is intended to strengthen decision-making and accountability in the public sector; values shared by government information and records management.

Digitale Archivering in Vlaamse Instellingen en Diensten (DAVID). Websites [web page]. Available at: http://www.antwerpen.be/david/website/eng/websites.htm.

- Provides links to several documents on archiving websites. Includes a report Archiving Websites (#5, 2002) that discusses the need for archiving web sites, strategies for collection and management, and legal issues including copyright.

GartnerGroup. Building a Web Content Management Request for Proposal. 2002. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4045.

- "The Alberta Standards Management Committee (ASMC) recommends that the Information Technology Advisory Council (ITAC) endorse adoption of this strategy to establish Content Management System (CMS) standards for the Government of Alberta (GoA)."

McClure, Charles R., and J. Timothy Sprehe. Guidelines for Electronic Records Management on State and Federal Agency Web sites. [1998?]. Available at: http://slis-two.lis.fsu.edu/~cmcclure/guidelines.pdf.

- Widely cited, these guidelines arose from a survey of U.S. federal and state agencies. It discriminates between purpose-prepared (e.g. preparing a static document for the web), and "real time web site postings" (e.g. dynamic content). The guidelines discuss the responsibilities of senior management, webmasters, content managers, and records managers.

McCluskey-Moore, N. "Untangling Web Content Management: Intranet, Extranet, and Otherwise." *Intranet Design Magazine*. April 18, 2000. Available at: http://idm.internet.com/articles/200004/im_04_18_00a.html.

- Widely cited, this article discusses considerations for choosing the right web content management solution and details web site and IT requirements.

Stephens, David O., and Roderick C. Wallace. Chapter 9: The Web. In *Electronic Records Retention: New Strategies for Data Life Cycle Management*. Lenexa, KS: ARMA International, 2003. Order online at: http://www.arma.org/bookstore/product_detail.cfm?itemID=1203.

- Provides a sample policy on the retention of web pages.

United Kingdom, Public Records Office (PRO). Managing Web Resources: Management of Electronic Records on Web sites and Intranets: An ERM Toolkit. 2001. Available at: http://www.pro.gov.uk/recordsmanagement/erecords/web site-toolkit.pdf.

- "This toolkit outlines the existence of public records in web sites and intranets and is designed to explain specific requirements for the management of information and records on web sites." Defines what official web records are,

the issues for capturing web records, and provides strategies for managing web records.

United States, Ohio. Guidelines for Managing Web Site Content. 2002. Available at: http://www.ohiojunction.net/erc/web/webguidelines.html.

- These guidelines and best practices facilitate the management and preservation of web records. It discusses records management for web-based records, web based publications, and preserving web-based records with enduring historical value.

United States, South Carolina, Archives and Records Management Division. Managing Public Records on Web Sites. 2002. Available at: http://www.state.sc.us/scdah/26.pdf.

- Divides web site resources into transitory records, publications and web records. Publications are managed according to Legal Deposit law, and web records are managed depending on their business, legal, fiscal, and historical values and risks Includes a list of best practices.

3.
Jurisdictional Resources

Core resources are repeated in this section and tagged with a checkmark.

3.1. Australia

Australian Society of Archivists. Legal and Recordkeeping Issues Associated with Management of Websites. 2000. By Barbara Reed. Available at: http://www.archivists.org.au/events/websites/reed.html.

- Discusses issues and trends for websites from an Australian recordkeeping and legal perspective. Reed believes that web site/transactional logs, with detailed documentation of the web pages update process, and the snapshot strategy are not appropriate. Internet commerce needs new recordkeeping strategies, such as use of "trigger events" to "populate specified fields and lock the transaction into context at the time it is taking place."

Australian Society of Archivists. Managing Websites Seminar: Gearing Up for the E-commerce Era: Regulatory, Recordkeeping, and Legal Issues Associated with Managing Websites. 1999. By Livia Iacovino. Available at: http://www.archivists.org.au/events/websites/iacovino.html.

- Asks relevant questions on recordkeeping web sites.

National Archives of Australia (NAA). Archiving Web Resources – Policy and Guidelines. 2001. Available at: http://www.naa.gov.au/recordkeeping/er/web_records/intro.html.

- The policy and guidelines cover public web sites, virtual private networks, extranets, intranets, and individual web-based resources, and it outline responsibilities for national organizations.

National Library of Australia. Archiving the Web: The National Collection of Australian Online Publications. 2002. Available at: http://www.nla.gov.au/nla/staffpaper/2002/phillips1.html.

- This paper describes what the National Library of Australia is doing, why and how it is archiving online resources.

National Library of Australia. Managing Web Resources for Persistent Access. November 2002. Available at: http://www.nla.gov.au/guidelines/persistence.html.

- These guidelines discuss the problem of deadlinks, and possible solutions to manage online resources so that any hyperlinks/citations to the resources will persist.

National Library of Australia. Safeguarding Australia's Web Resources: Guidelines for Creators and Publishers. 2002. Available at: http://www.nla.gov.au/guidelines/webresources.html.

- "The guidelines provide practical advice on creating, describing, naming and managing web resources to facilitate their on-going use."

Public Record Office Victoria. Electronic Records as Evidence. Advice #8. 2003. Available at: http://www.prov.vic.gov.au/vers/standards/PROVRMAdvice8.pdf.

- Provides general information on how to take into account legal evidence requirements for electronic records.

Queensland, Government Services. Managing Records of Webpages and Websites: Policy Statement, Principles, and Guidelines. 2002. Available at: http://www.archives.qld.gov.au/govserv/records/mrww.pdf.

- Discusses principles and provides a glossary, implementation, guidelines, and management of web resources. Addresses whether electronic records are acceptable as evidence in legal disputes.

Tasmanian Government Online. Tasmanian Government Web Publishing Standards. January 2004. Available at: http://www.go.tas.gov.au/standards/tgwps/tgwps_complete_publication.shtml.

- Details 5 principles for web publishing and minimum requirements.

Western Australia, Department of Premier and Cabinet. Guidelines for State Government Web Sites. 2003. Available at: http://www.egov.dpc.wa.gov.au/index.cfm?fuseaction=projects.policy.

- These guidelines facilitate the delivery of quality online information and services and cover web site management, maintenance, and minimizing the 'digital divide' effects.

3.2. Canada

Government of Alberta. GoA Enterprise Content Management System Strategy. 2003. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4046

- "The Alberta Standards Management Committee (ASMC) recommends that the Information Technology Advisory Council (ITAC) endorse adoption of the following strategy [GartnerGroup's Strategic Analysis Report on Building a Web Content Management Request For Proposal] to establish Content Management System (CMS) standards for the Government of Alberta (GoA)."

Alberta Infrastructure. Web Site / Service Management Needs Definition. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4145.

- Defines web site objectives, competing interests in web site development, types of web content management (e.g. file-based, database, and hybrid), and provides a form for evaluating WCM requirements.

British Columbia, Public Affairs Bureau. B.C. Government Internet Standards. 2001. Available at: http://www.cio.gov.bc.ca/prgs/Internet_Standards.htm.

- Links to two resources: User Experience and Internet Standards, and New Web Look and Feel Standards – Guidelines for e-Services.

Government of Ontario, Information and Technology Standards. GO-ITS 23.2 – World Wide Web – Content Standard Approved Standard. 2002. Available at: http://www.gov.on.ca/MBS/techstan/GOITS_23_2_World_Wide_Web_Content_Standard.htm.

- "This standard describes requirements and recommendations for content on Government of Ontario World Wide Web Information Provision sites." The resources mandates/recommends content to include on a website, such as:

feedback form, contact information, about the organization, privacy statements if collecting personal information, and not to use an "automatically generated" today's date, etc. It standardizes naming conventions for links.

IM Forum Internet and Intranet Working Group. An Approach to Managing Internet and Intranet Information for Long-Term Access and Accountability. 1999. Available at: http://www.imforumgi.gc.ca/iapproach2_e.html.

- Canada requires web publications to be managed for recordkeeping and long-term preservation purposes. The guide discusses risk management, satisfying legal deposit, the retention and disposition of web documents, metadata, and quality assurance. A lengthier, companion Implementation Guide is also available.

Treasury Board of Canada Secretariat. Government of Canada Internet Guide. 2002. Available at: http://www.cio-dpi.gc.ca/ig-gi/index_e.asp.

- The guide is divided into 4 parts: getting started, implementation, evaluation, and maintenance.

Treasury Board of Canada Secretariat. Information Management in a Portal Environment: A Common Approach to Simplified Portal Content Administration [Presentation]. 2001. Available at: http://www.cio-dpi.gc.ca/im-gi/imday-jourgi/pres/portal-portail/page01_e.asp.

- Presentation includes many graphics on portal content administration.

3.3. New Zealand

New Zealand, E-Government. Web Guidelines. Last revision February 2004. Available at: http://www.e-government.govt.nz/web-guidelines/index.asp.

- This document focuses on web design/look and feel standards, includes sections on web strategies, content, and delivering content, but does not cover recordkeeping or preservation.

Archives New Zealand. Web Guidelines: Content and Design Compliance Checklist. Available at: http://www.e-government.govt.nz/web-guidelines/guidelines-checklist.pdf.

- Provides a checklist for agencies to use to assess their web site's compliance with design and content requirements of the Government Web Guidelines.

Archives New Zealand. Websites. 2000. Available at: http://www.archives.govt.nz/statutory_regulatory/advisory_notes/websites_frame.html.

- Advises on the management and disposition of websites.

3.4. United Kingdom

United Kingdom, Public Records Office. Managing Web Resources: Management of Electronic Records on Web sites and Intranets: An ERM Toolkit. 2001. Available at: http://www.pro.gov.uk/recordsmanagement/erecords/web site-toolkit.pdf.

- "This toolkit outlines the existence of public records in web sites and intranets and is designed to explain specific requirements for the management of information and records on web sites." Defines what official web records are,

the issues for capturing web records, and provides strategies for managing web records.

3.5. United States

Defense Information Systems Agency (DISA). World Wide Web Handbook, Version 5.0. Last Updated 2003. Available at: http://www.disa.mil/handbook/toc.html.

- Mandates look and feel, style guidelines, content management, and records retention for internal and external US military web sites.

Delaware Public Archives (DPA). Guidelines for Maintaining and Preserving Records of Web-Based Activities. 2002. Available at: http://www.state.de.us/sos/dpa/govsvcs/records_policies/guidelines%20for%20maintaining%20and%20preserving.shtml.

- Briefly provides guidance on taking web snapshots as needed on CD-ROMs and transferring the snapshots to DPA.

Minnesota Historical Society. Web Content Management. In: Electronic Records Management Guidelines. 2003. Available at: http://www.mnhs.org/preserve/records/electronicrecords/erweb.pdf.

- This chapter in the Electronic Records Management Guidelines examines internets, intranets, extranets, and the world wide web, and considers legal and other issues.

Mississippi. Part 5: Webpages. In: Electronic Records Draft Guidelines. N.d. Available at: http://www.mdah.state.ms.us/arlib/erglnav.html.

- Briefly discusses records issues specific to the web, scheduling specifics for webpages, and the archiving process. It states that a web site corresponds to a records series and a schedule.

National Archives and Records Administration (NARA). Federal Web Site Snapshot Information. 2001. Available at: http://www.archives.gov/records_management/web_site_snapshot/snapshot.html.

- "The National Archives and Records Administration (NARA) will be preserving a one-time snapshot of agency public web sites as they exist on or before January 20, 2001, as an archival record in the National Archives of the United States." Includes forms for: Web Site Description, Information System Description, and Technical Description for Transfer of Electronic Records to the National Archives.

Nebraska, State Records Administrator. Web Page Guidelines. 2003. Available at: http://www.sos.state.ne.us/RecordsMgmt/GuidelineWebPagesMarch2003.pdf.

- Voluntary guidelines for use by state and local government. Contains definitions, basic principles, identification through metadata elements, and retention and disposition.

Ohio. Guidelines for Managing Web Site Content. 2002. Available at: http://www.ohiojunction.net/erc/web/webguidelines.html.

- These guidelines state that web sites cannot be treated as a records series as it is the content that should be scheduled. It discusses records management for web-

based records, web based publications, and preserving web-based records with enduring historical value.

Pennsylvania, Office of Administration Central. Web Site Records Retention. Last revised December 2003. Available at: http://www.oit.state.pa.us/oaoit/cwp/view.asp?a=12&Q=74119&oaoitPNav=|1876|#3686

- Pennsylvania does not require snapshots except for high-risk resources, which require periodic snapshots. Inventories of web resources must be kept. Web-completed forms must be kept, perhaps as TIFF files. Web-publications are subject to legal deposit.

United States, North Carolina, Office of Archives and History, Government Records Branch. Web Site Guidelines [section]. 2003. Available at: http://www.ah.dcr.state.nc.us/sections/archives/rec/default.htm.

- Four brief publications provide information and forms for managing web site content, including;
  - Guidelines for Maintaining and Preserving Records of Web Based Activities
  - Website Content Assessment Table
  - Instructions for Website Assessment Table
  - Guidelines for Digital Imaging Systems

South Carolina, Archives and Records Management Division. Managing Public Records on Web Sites. 2002. Available at: http://www.state.sc.us/scdah/26.pdf.

- Divides web site resources into transitory records, publications and web records. Publications are managed according to Legal Deposit law, and web records are managed depending on their business, legal, fiscal, and historical values and risks. Includes a list of best practices.

Texas. Guidelines for the Management of Electronic Transactions and Signed Records. 2002. Available at: http://www.tsl.state.tx.us/slrm/recordspubs/UETA_guidelines.doc.

- "The need to preserve transactions and electronically-signed records over time, whether for a defined period or permanently, presents special challenges to government entities… The guide is being issued in a specifications format rather than a rule format because the technology available to protect the authenticity, security, and retention of electronic records is in flux". Good discussion on risk.

Wyoming. Wyoming Web site Retention Guidelines. N.d. Available at: http://wyoarchives.state.wy.us/retain/web site.htm.

- Contains guidelines for web site snapshots, instructions for transferring to the State Archives, a Web site Transfer Form, and an Accountability Exposure Analysis that charts low, medium and high-risk levels for web sites with the recordkeeping response to that risk.

4.
Accessibility

World Wide Web Consortium (W3C). Checklist of Checkpoints for Web Content Accessibility Guidelines 1.0. 1999. Available at: http://www.w3.org/TR/WAI-WEBCONTENT/full-checklist.html.

- Provides a list of checkpoints for web developers.

W3C. Web Content Accessibility Guidelines 1.0. 1999. Available at: http://www.w3.org/TR/WAI-WEBCONTENT/.

- These guidelines seek to promote accessibility for people with disabilities and for all users.

Watchfire Corporation. Welcome to Bobby [tool]. Available at: http://bobby.watchfire.com/bobby/html/en/index.jsp.

- This free service will allow you to test web pages and help expose and repair barriers to accessibility and encourage compliance with existing accessibility guidelines, such as Section 508 and the W3C's WCAG.

5.
E-Commerce

Alberta. Consumer Tips. Shopping on the Internet: Internet Sales Contract Regulation. 2001. Available at:
http://www3.gov.ab.ca/gs/pdf/tipsheets/shopping_on_the_internet.pdf.

- Advises consumers on what to look for when purchasing via the Internet and includes a very brief recordkeeping section stating consumers should print out their records.

Canada, Department of Justice. Consultation Paper on Facilitating Electronic Commerce: Statutes, Signatures and Evidence. Date modified 2002. Available at:
http://canada.justice.gc.ca/en/cons/facilt7.html.

- "Our approach in this project was not to introduce substantive changes to provisions containing such language, but to render federal statutes as "media-neutral" as possible to provide a degree of equivalency between paper and electronic media." Part 1 contains global provisions on: statutory authority for electronic documents; original documents; signatures; sworn, witnessed and certified documents; documents under seal; in-writing requirements; forms; requirements for records retention or duplicate or multiple copies; and payments. Part 2 discusses rebuttal of electronic signatures.

6.
Intellectual Property Issues

Canadian Heritage. Protecting Your Interests: A Legal Guide to Negotiating Web Site Development and Virtual Exhibition Agreement. 2002. Available at: http://www.chin.gc.ca/English/Intellectual_Property/Protecting_Interests/index.html.

- This guide addresses legal issues arising from web site development through a contractor. It contains 2 relevant chapters that discuss acknowledging and solidifying intellectual property rights, and protecting against future or contingent liabilities.

Canada, Intellectual Property Policy Directorate. Consultation Paper on Digital Copyright Issues. 2001. Available at: http://strategis.ic.gc.ca/epic/internet/incrp-prda.nsf/vwGeneratedInterE/h_rp01102e.html.

- This paper resembles a resources guide and contains links to many Federal Canadian papers on Internet issues.

Canada, Intellectual Property Policy Directorate. Consultation Paper on Application of the Copyright Act's Compulsory Retransmission License to the Internet. 2001. Available at: http://strategis.ic.gc.ca/epic/internet/incrp-prda.nsf/vwGeneratedInterE/h_rp01103e.html.

- Retransmission refers to transmitting content originally from TV, radio, or other media again over the Internet.

Canada, Intellectual Property Policy Directorate. A Framework for Copyright Reform. 2001. Available at: http://strategis.ic.gc.ca/epic/internet/incrp-prda.nsf/vwGeneratedInterE/rp01101e.html.

- Discusses some relevant current and emerging copyright issues including a paragraph on "government as owner and user of copyrighted works".

World Intellectual Property Organization (WIPO). Intellectual Property on the Internet: A Survey of Issues. 2002. Available at: http://ecommerce.wipo.int/survey/index.html.

- A large (202 page) report provides national web usage statistics, and addresses emerging legal developments in the areas of copyright, trademarks, patents, domain names, private international law and dispute resolution, etc.

7. Management

AIIM International. AIIM User Guide: Document and Web Content Capture. 2003. Available at: http://www.aiim.org/documents/WebCM_encrypted.pdf.

- Defines what web content management (WCM) is and is not; explains WCM from creation, repository, delivery and personalization, and administration phases; and examines trends for the next 12 – 24 months. Contains a glossary. Written from a business rather than government perspective.

Canada, Treasury Board of Canada Secretariat. Integrated Risk Management Framework. April 2001. Available at: http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/riskmanagement/rmf-cgr_e.asp.

- This document is intended to strengthen decision-making and accountability in the public sector; values shared by government information and records management.

GartnerGroup. Building a Web Content Management Request for Proposal. 2002. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4045.

- "The Alberta Standards Management Committee (ASMC) recommends that the Information Technology Advisory Council (ITAC) endorse adoption of this strategy to establish Content Management System (CMS) standards for the Government of Alberta (GoA)."

GartnerGroup. The Checklist of Core Criteria for Web Content Management. 2000. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4147.

- Core criteria for WCM are: change management, dynamic content, workflow, templates, repositories, replication and deployment, personalization, security management, scalability, and integration and development tools.

GartnerGroup. The Elements of a Content Management Strategy. 2000. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4146.

- Details the 4 major business domains, discusses the life-cycle, and identifies important strategic elements, such as: repository, workflow, integration, transformation, publishing, personalization, and transactions.

Gartner. Will Microsoft Own Web Content Management in 2005. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4204.

- Forecasts that "Microsoft's ubiquity, and the modest price and functionality of its CM Server, will enable the software giant to achieve high growth in the WCM market through 2005". The article states that Microsoft's WCM product does not meet high-end publishing requirements, and may not be suitable for very large enterprises.

Giga Information Group. Portals and Web Content Management: Key Differences and Choices for Intranet Implementations. 2002. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4198.

- Differentiates between portals and WCM. "Portals include lightweight document submission and approval features that overlap with WCM, but full-

blown WCM systems are needed to collaboratively author, review, approve, manage and publish large volumes of dynamic Web content."

Nakano, Russell. *Web Content Management: A Collaborative Approach*. Toronto: Addison-Wesley, 2002. [Book is not online].

- "This is a book about content management, with an emphasis on web content. More specifically, it's about developing, managing, maintaining and deploying web content solutions across the enterprise." (preface).

8.
Preservation Issues

Council on Library and Information Resources (CLIR). Risk Management of Digital Information: A File Format Investigation. 2000. By Gregory W. Lawrence, William R. Kehoe, Oya Y. Reiger, William H. Walters, and Anne R. Kenney. Available at: http://www.clir.org/pubs/reports/pub93/contents.html.

- This guide is intended to help assess "risks associated with the migration of various formats and to making sound preservation decisions on the basis of that assessment. The authors start from the premise that migration is prone to generating errors, and they provide practical tools to quantify the risks. They organize migration into a sequence of discrete steps and offer assessment tools to manage each of those steps. The process is presented in a workbook."

Digitale Archivering in Vlaamse Instellingen en Diensten (DAVID). Websites [web page]. Available at: http://www.antwerpen.be/david/website/eng/websites.htm.

- Provides links to several documents on archiving websites. Includes a report Archiving Websites (#5, 2002) that discusses the need for archiving web sites, strategies for collection and management, and legal issues including copyright.

IFLA. Archiving the Web - Some Legal Aspects. 2002. By Alenka Kavcic-Colic. Available at: http://www.ifla.org/IV/ifla68/papers/116-163e.pdf.

- Provides a library perspective on copyright and legal deposit legislation and includes rights implications for harvesting, public access and long-term preservation.

Kenney, AR, McGovern, NY, Botticelli, P, Entlich, R, Lagoze, C and Payette, S. Preservation Risk Management for Web Resources: Virtual Remote Control in Cornell's Project Prism. *D-Lib Magazine*, 8 (1), January 2002. Available at: http://www.dlib.org/dlib/january02/kenney/01kenney.html.

- "This article describes current Web preservation efforts by libraries and archives and suggests how a new preservation strategy could use a risk management methodology. Cornell's Project Prism is exploring technologies and tools to assess the lifestyle and habits of the Web that research libraries and other entities can monitor and use to develop retention policies for online resources." Includes many references to records management and preservation approaches internationally.

Lyman, Peter. Archiving the World Wide Web. In: Building a National Strategy for Digital Preservation: Issues in Digital Media Archiving. April 2002. Available at: http://www.clir.org/pubs/reports/pub106/web.html.

- Discusses the issues confronting web archiving.

Smithsonian Institution Archives. Archival Preservation of Smithsonian Web Resources: Strategies, Principles, and Best Practices. 2001. Available at: http://www.si.edu/archives/archives/dollar%20report.html.

- This report assesses requirements for preservation of the Smithsonian Institution's web sites and HTML pages, and provides recommendations aligned with lifecycle management. Also, see these other *Archival Preservation of Web Resources* publications:

- Digital Quality Assurance Tools – Technical Evaluation and Recommendations (2002)
- HTML to XHTML Migration Test Technical Considerations, Evaluation, and Recommendations (2001)
- An Evaluation and Recommendation for a Smithsonian Institution Archives Pilot Project (2003)

9.
Privacy Issues

Alberta. Guide to Developing Privacy Statements for Government of Alberta Web Sites. Updated 2001. Available at: http://www.gov.ab.ca/foip/other_resources/publications_videos/privacy_statements_guide.cfm.

- This guide is meant to help government Web site managers develop and use privacy statements on their Web sites.

Lieb, Thom. How About a Little Privacy? JEP 7 (1), August 2001. Available at: http://www.press.umich.edu/jep/07-01/lieb0701.html.

- Covers 4 fair information standards to follow: notice, choice, security, and access. Also, provides model privacy statements.

W3C (World Wide Web Consortium). Platform for Privacy Preferences (P3P) Project. Available at: http://www.w3.org/P3P/.

- "At its most basic level, P3P is a standardized set of multiple-choice questions, covering all the major aspects of a Web site's privacy policies. Taken together, they present a clear snapshot of how a site handles personal information about its users. P3P-enabled Web sites make this information available in a standard, machine-readable format. P3P enabled browsers can "read" this snapshot automatically and compare it to the consumer's own set of privacy preferences. P3P enhances user control by putting privacy policies where users can find them, in a form users can understand, and, most importantly, enables users to act on what they see."

10.
Technology Issues

Bergman, Michael K. The Deep Web: Surfacing Hidden Value. *Journal of Electronic Publishing (JEP)* 7 (1), August 2001. Available at: http://www.press.umich.edu/jep/07-01/bergman.html.

- Widely cited, this article examines content from the perspective of a search engine finding the content.

Minnesota Historical Society. Trustworthy Information Systems Handbook. Last Updated 2002. Available at: http://www.mnhs.org/preserve/records/tis/tableofcontents.html.

- Provides a technology/systems development perspective on trustworthiness. Clearly explains that "trustworthiness refers to an information system's accountability", including reliable and authentic records. This easy-to-read resource includes a set of criteria and best practices to implement a trustworthy system.

Minnesota Office of Technology. IRM Standard 18, Version 1: Minnesota State Agency Digital Signature Implementation and Use. 1999. Available at: http://www.state.mn.us/cgi-bin/portal/mn/jsp/content.do?id=-8487&subchannel=null&sc2=null&sc3=null&contentid=536880513&contenttype=EDITORIAL&programid=536881358&agency=OT.

- Provides definitions, explains that agencies must determine when to use digital signatures through a set of criteria, and provides direction on delegating authority to select staff to digitally sign, and on establishing an implementation and use policy.

Treasury Board of Canada Public Key Infrastructure Page. 2002. Available at: http://www.cio-dpi.gc.ca/pki-icp/index_e.asp.

- Use of PKI provides assurance that electronic transactions can be safely conducted online. PKI uses digital signatures, encryption and decryption technologies plus policies and procedures to ensure that privacy is protected, alteration of the transactional record is prevented, the identity of the parties is verified, and repudiation of the contract is prevented.

Government of Alberta, Standards for Web Application Protocols Working Group. Industry Recognized Standards for Web Application Protocols, Draft. August 19, 2003. Available at: http://www.sharp.gov.ab.ca/showobject.cfm?docnumber=4056.

- Discusses current and emerging standards for web application development.

11.
Searching for More

11.1. Listserv

CMS. Available at: http://mailman.skybuilders.com/mailman/listinfo/cms.

11.2. Online Journals, Magazines and Proceedings

CMS Watch. Available at: http://www.cmswatch.com/

Denmark's Electronic Research Library. Preservir_ the Present for the Future: Strategies for the Internet: Proceedings. June 2001. Available at: http://www.deflink.dk/eng/arkiv/dokumenter2.asp?id=695.

D-Lib Magazine. Available at: http://www.dlib.org/.

First Monday. Available at: http://www.firstmonday.dk/.

International Journal of Digital Evidence. Available at: http://www.ijde.org/.

KM World, Special Supplement. Best Practices in Enterprise Content Management. 2001. Available at: http://www.kmworld.com/publications/whitepapers/ECM/ECM_contents.htm

SearchEngineWatch.com. Available at: http://searchenginewatch.com/.

11.3. Portals

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Canada, Industry Canada. Intellectual Property Policy: Laws and Regulations [portal]. Available at: http://strategis.ic.gc.ca/epic/internet/inippd-dppi.nsf/vwGeneratedInterE/h_ip00007e.html.

Canada, National Library of Canada. E-preservation: Preserving digital information in Canada. 2000. Available at: http://www.nlc-bnc.ca/cidl/preserv-conserv/index.htm.

Canada, Treasury Board Secretariat. IMRC – Web Portals and Clusters. Available at: http://www.cio-dpi.gc.ca/im-gi/references/portal-portail/portal-portail_e.asp.

Canada, Treasury Board Secretariat. IMRC – XML. Available at: http://www.cio-dpi.gc.ca/im-gi/references/xml/xml_e.asp.

DefenseLink. DOD Webmasters Policies and Guidelines [portal to DOD documents]. Available at: http://www.defenselink.mil/webmasters/.

Multimedia Victoria. Information Management and Web Site Issues. Available at: http://www.egov.vic.gov.au/Research/WebSiteIssues/websiteissues.htm.

NAGARA. CERIS – State Electronic Records Resources. Available at: http://www.nagara.org/ceris/ceris_er_resources.htm.

Ontario. Information Technology Standards [portal]. Available at: http://www.gov.on.ca/MBS/techstan/bnumber.html.

University of Wisconsin-Madison Government Web Pages and Information Management Project. Government Web Pages and Information Management. 2002. Available at: http://sliswyb.lis.wisc.edu/~kreschen/stateweb/weblinks.htm.